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ABSTRACT

School effectiveness programs were evaluated at six urban schools (five elementary and one junior high schools) in Louisiana for the 1986-87 school year. Focus was on providing principals with information to improve their school effectiveness programs for the 1987-88 school year. Subjects were 3,006 students, for whom scores on the California Tests of Basic Skills were reviewed. Also included were six principals and 184 teachers who were interviewed and administered questionnaires: the Principal Questionnaire and the Staff Assessment Questionnaire, respectively. Data analysis procedures included means, frequencies, multivariate analysis of variance, and canonical correlation as quantitative techniques and trend analysis as the qualitative technique. Results suggest that: (1) there was some disparity in achievement across socioeconomic groups, but these differences were not as large as those found in previous research studies; (2) achievement of older students was less affected by socioeconomic status; (3) a higher percentage of paid-lunch students scored at or above grade equivalent than did free-lunch students; (4) principals expressed high expectations for students' academic achievement, but limited expectations for continuing education beyond high school; (5) principals expected teachers to impact student achievement through teaching methods and attitudes; (6) defined effective school programs were begun by initiators; (7) principals identified as managers ran schools with less variance across socioeconomic groups; and (8) managers tended to impact student achievement more than did initiators. Four data tables are included. (Author/TJH)

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Evaluation of Six School Effectiveness Programs

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ABSTRACT

The purpose of this investigation was to evaluate school effectiveness programs at six schools. A secondary purpose was to provide principals with information to improve their school effectiveness programs.

The subjects were 3006 students (CTBS records), 184 teachers, and 6 principals participated in the study. The principals were interviewed and administered the Principal Questionnaire. The teachers were administered the Staff Assessment Questionnaire.

Data analysis procedures utilized included: means, frequencies, multivariate analysis of variances, and canonical correlation as quantitative techniques, and trend analysis as the qualitative technique.

The results suggested several conclusions: (1) There was some disparity in achievement between SES groups but these differences were not as large as differences found in previous research. (2) Older students achievemnet was less effected by SES. (3) A higher percentage of paid lunch students scored at or above grade equivalent than did free lunch. (4) Principals expressed high expectations for students' academic achievement,. but limited expectations for continuing education beyond high school. (5) Principals expected teachers to impact student achievement through teaching methods and attitudes. (6) DESPs were begun by initiators. (7) Principals identified as managers ran schools with less variance between SES groups. (8) Managers tended to impact student achievement more than initiators.

Evaluation of Six School Effectiveness Programs

National research on effective schools has a long history that dates back to the Coleman Report (Coleman et al., 1966). Coleman et al. (1966) found that family background was most important for determining achievement and that this influence did not diminish over the years of schooling. Coleman (1966) also found that the school facilities, curriculum, and staff had nominal effects on achievement. These findings stirred controversy among educational researchers, such as Edmonds, Lezotte, Brookover, D'Amico, and Rutter, who began to conduct studies in an attempt to investigate factors that would produce effective schools.

The Louisiana Department of Education began to undertake research on effective schools in 1980. The state department of education committed itself to a program for developing effective schools using the Kelwyn model. In 1986, a large urban school system (LUSS) in Louisiana began a school effectiveness program by instuting a series of workshops on school effectiveness for principals and selected teachers. One of the state supported regional professional development centers provided both guest speakers and video tapes that were used in the workshops.

Purpose of the Study

The purpose of this study was two-fold. First, this evaluation study was designed to evaluate the school effectiveness programs in six schools in the LUSS for the 1986-87 school year. A second purpose was to provide the principals of these schools with information to improve their school effectiveness programs for the 1987-88 school year. Thus, this evaluation

study should provide both summative and formative information relative to the schools' programs.

Seven critical questions were posed:

1. According to standardized test results, what is the mean normal curve equivalent score for each of the socioeconomic groups for each grade of each school?

2. Did either SES group (free or paid lunch) show higher achievement scores?

3. Did comparable percentages of students from different socioeconomic groups achieve at least the grade equivalent?

4. Does the principal hold and translate high expectations for the school's students and teachers? (Principal self-reported)

5. What is the frequency with which the principal observes teachers and provides feedback to the teachers? (Principal self-reported)

6. What amount of time does the principal devote to instructional leadership activities as opposed to administrative activities? (Principal self-reported)

7. What impact do the different instructional leadership styles of a principal have on the achievement of the students?

Instructional Leadership Research

Instructional leadership has been emphasized by Brookover, Lezotte, Edmonds, and Rutter. The focus has been on a "strong" or "effective" instructional leader. Sellarole (1985, p. 46) described a strong

instructional leader "as a principal or assistant who is easily accessible, a provider of a 'real interchange of ideas,' and a prompt and effective communicator of information." Murphy (1983) added to the characteristics with: display knowledge of curriculum content and instructional techniques, spends considerably more time coordinating and controlling instruction rather than managerial duties, sets expectations and standards for both the students and teachers, develops clear school goals, and is actively involved in providing staff development.

Hall has contributed to defining principal styles. Hall et al. (1984) described three types of leadership styles, from a heuristic structure: responder, manager, and initiator. These three styles were compared on seven dimensions or behaviors: vision and goal setting, structuring the school as a work place, managing change, collaborating and delegating, decision making, guiding and supporting, and structuring the leadership role. During the past 15 years, several studies have focused on aspects of principal leadership. Research has been done on amount of time spent on various principal duties (Wellisch et al., 1978), instructional leadership orientation (Hallinger, & Murphy, 1986), promoting school improvements (Hallinger, & Murphy, 1986; Rowan et al., 1983), and principal style context differences (Evans, 1988; Teddlie, Stringfield, Wimpelberg, & Kirby, 1987). Hallinger and Murphy (1986) found that instructional leaders in low-SES (socioeconomic status) needed to coordinate curriculum and control instruction. Differences in instructional leadership based on school SES was found in Evans (1988) and Teddlie et al. (1987). Andrews and Soder (1987) found that student showed significantly greater gains in both Total Reading and Total Mathematics on the California Achievement Test with a

strong leader and the free lunch students were 14 to 16 NCE points below the paid lunch students (Andrews, & Soder, 1986; Andrews, & Soder, 1987). These studies found that leadership styles did make a difference in student achievement and staff preferences, which contradicted Coleman et al. (1966).

Monitoring Student Progress Research

Monitoring student progress is commonly used as a synonym for student achievement. Edmonds and others have been strong proponents of using standardized tests, noting that "standardized tests force realistic and accurate individual student progress" (Brewer, 1986, p. 5). In 1979, Madaus, Kellaghan, Rakow, and King argued against standardized testing and suggested using criterion-referenced tests. But, Madaus et al. (1979) actually found that in several ways, standardized tests were more suitable because they resulted in more variance than the criterion-referenced tests. Thus, the support has continued to be for the use of standardized test in effective school research.

Methods and Procedures

This study was conducted in six schools in a large urban school system, five elementary and one junior high school. The sample included 3006 students, 187 teachers, and 6 principals. Of this sample, three of 187 teachers did not participate in the study. The school socioeconomic status ranged from 38% to 58% of the students on free lunch and all schools had an enrollment of about 600 students. In all of the school at least 75% of the

teachers had spent 5 or more years teaching at that school. There was an average of 3 non-tenured teachers at each school. The mean CTBS subtest scores and Total Battery for 1986-87 are listed in Table 1 for baseline data.

Insert Table 1 About Here

The data were described and analyzed by the use of descriptive analysis (means, frequencies), multivariate analysis of variance, canonical correlation, and qualitative analysis. Means, frequencies, and qualitative analysis were used to provide descriptive information pertaining to the school effectiveness programs already in place at the six schools. A one-way MANOVA was used to analyze the CTBS Total Reading Score and Total Mathematics Score using SES as an independent variable. A two-way MANOVA was used to analyze the CTBS Total Reading score and Total Mathematics score using school SES and principal style as the independent variables. The canonical correlation technique was used to determine the relationship between CTBS Total Reading Score and Total Mathematics Score with SES and grade level.

Limitations of the Study

1. These six schools had initially contacted the central office for information relative to their CTBS scores. Because of the volunteer nature of this selection process, there is no possibility for generalizability outside this group of six schools.

2. A second limitation concerns the fact that this was a post hoc study. One inherent difficulty was the fact that data were gathered during the 1987-88 school year on events that occurred during the 1986-87 school year.

3. This study defined the instructional leader as the principal but there may have been another person who was actually the instructional leader in the school.

4. A final limitation was the economic condition of the metropolitan area. The general area was in an economic depression resulting in higher unemployment which lead to greater numbers of families applying for free lunch which might otherwise not apply. This condition also resulted in greater student movement.

Instruments

Three instruments and an interview protocol was used in this study. The CTBS (Comprehensive Test of Basics Skills) is a commercially available comprehensive norm-referenced test (CTBS technical manual, 1984). The subtests (Total Reading, Total Language, Total Mathematics, Science, and Social Studies) and the Total Battery were used as the dependent variables for the multivariate statistics and descriptive data for critical questions 1a through 1c used the CTBS scores. The Principal Questionnaire was adapted form the Principal Questionnaire by Brookover et al. (1979). Initially Brookover's instrument was 94 items in length and only the 17 items pertinent to this study were extracted with the aid of the factor analysis performed by Brookover et al. (1979). The Staff Assessment Questionnaire

was the third instrument used and was a sub-part of Andrews et al. (1987) 94-item Likert type questionnaire. The 19 items used from the Staff Assessment Questionnaire was extracted using factor analysis, the factor pertaining to instructional leadership.

Discussion of Results

The critical questions formed the basic hypotheses for the study. The null hypotheses were rejected at the .05 level of significance. Most of the findings were consistent with research done by Brookover, et al. (1979), Sellarole (1986), Andrews and Soder (1987), and Evans (1988). A discussion of the results for each critical question will follow.

Critical Question 1a

According to standardized test results, what is the mean normal curve equivalent score for each of the socioeconomic groups for each grade of each school?

Each of the schools has some differences in the mean NCE scores for high and low SES students for every test across grade levels. This is consistent with the research findings by Brookover, et al (1979) and Andrews and Soder (1987). Both of these studies found differences of between 10 and 20 points between free and paid lunch students, with a mean differences of 16 NCE points. However, unlike the studies of Brookover and Andrews, which found substantial differences between SES groups on all tests, this research study found over half of the differences for each school, (with the

exception of School 03 and 04), to be less than 10 points. The mean difference for each school was school 01 - 7.96, school 02 - 7.89, school 03 - 10.07, school 04 - 17.64, school 05 - 9.00, and school 06 7.13. All but two school (03 and 04) had over 60% of all differences from the subtests and Total Battery for each grade under 10.00. The largest differences between the SES groups were in the lower elementary grades, particularly kindergarten through second. The smallest differences were found in 6th through 9th grades. Reference Skills and Mathematics generally had smaller differences, and Reading and Science generally had larger differences, across all grade levels. Thus, these schools, regardless of socioeconomic status, seem to be providing services to students that appeared lessen the gap in achievement between socioeconomic status groups. This gap seemed to decrease as the students proceed through the school.

Critical Question 1b

Did either SES group (free or paid lunch) show higher achievement scores?

To answer this critical question a MANOVA and a canonical correlation were run. Both procedures resulted in statistically significant results between the two SES groups (free and paid lunch) on student achievement (Total Reading and Total Mathematics). Those students who were on paid lunch had higher achievement on standardized tests than the students on free lunch.

The null hypothesis for the MANOVA: there will be no statistically significant difference between the mean NCEs for the socioeconomic (SES

groups). The hypothesis was rejected [$F(2, 3001)=61.31$, $p<.0001$]. For the two univariate cases (Total Reading and Total Mathematics) the null hypotheses were also rejected (Total Reading: $F(1, 3002)=1246.79$, $p<.001$ with an effect size of 28.9%; Total Mathematics: $F(1,3002)=256.54$, $p<.001$) with an effect size of 7.8%). The effect sizes for Total Reading seem to indicate that there is educational significance to be considered for SES on reading achievement. The educational importance is not as great for mathematics.

The canonical correlation analyses used both grade level and SES as independent variables, and Total Reading and Total Mathematics as dependent variables producing a statistically significant result (see Table 2). The first canonical function was .59 [$F(4, 3097)=32.52$, $p<.0001$]; the second canonical function was .29 [$F(2, 3002)=19.37$, $p<.001$]. The function coefficients for function I were .76 for SES and .65 for grade level. For function II, the function coefficients were -.65 for SES and .76 for grade level. Thus, for function I the best single predictor was SES and for function II grade level was the best predictor, but both predictors were not much different for structure coefficients. Finally, the canonical communality coefficients "indicate what portion of each variable's variance is reproducible for the canonical results" (Thompson, 1984, p. 25). The communality for SES and grade level equaled .92, indicating the portion of variances that is reproducible.

Insert Table 2 About Here

Critical Question 1c

Did comparable percentages of students from different socioeconomic groups achieve at least the grade equivalent?

The schools that participated in this study had over 50% of both SES group achieving at least the grade equivalent (41st percentile) in all subtests and the Total Battery, with few exceptions (schools 03, 04, and 05). Where exceptions occurred, at least 40% of the students achieved the grade equivalent. Even so, there was a large disparity between the percentage of students achieving the grade equivalent by free and paid lunch status. In several instances, the differences between the two SES groups were greater than 15%. The only consistent exception to the difference in percentage of students achieving grade equivalence was in the Mathematics test. The smallest percentage of disparity was found in Total Mathematic for all but school 01. Reading and/or Reference Skills had the largest percentage of disparity for all but school 05.

To further investigate the differences in percentage achieving at the grade equivalent, a T-test was performed with observations being the school (High SES or low SES) and the dependent variable being percentage of students at the grade equivalent. There was a statistically significant difference between the percentage of students in high SES schools and the percentage of students in the low SES schools scoring at or above grade equivalence (See Table 3). The difference between the two means were 8.21.

Insert Table 3 About Here

Critical Question 2a

Does the principal hold and translate high expectations for the school's students and teachers? (Principal self-reported)

The principals in this study expected their students to perform at or above the norm on standardized tests and to make "good" grades in their (academic or regular) classes. The principals also expected most of the students to graduate from high school, but expected few to attend or graduate college. One of the difficulties the principals experienced in the expectations of the education of the students was the general trend state wide with a low retention rate with cohorts in high school and low attendance in institutions of higher learning. The retention rate was 57.4% for the 9th grade cohorts in 1982-83 who graduated in 1985-86 (Louisiana Department of Education, 1984; Louisiana Department of Education, 1987). As far as the expectations of students attending or graduating college, in 1985-86, 43.8% of the students statewide attended institutions of higher learning (this includes universities and trade schools) (Louisiana Department of Education, 1987). Because of the low percentages discussed above, the principals had difficulty determining how far students would progress. The low college attendance could also be partly attributed to the exonomy of the metropolitan area.

Principals' expectations were also high in regard to teacher attitudes and teaching methods. The principals expected the teachers to influence student achievement through teaching methods and attitudes. Principals anticipated that the teachers would carry out the expectations of the

principal for high academic achievement. Principals expected to evaluate teachers' performanc partly using the student achievement of their classes.

Critical Question 2b

What is the frequency with which the principal observes teachers and provides feedback to the teachers? (Principal self-reported)

There were two types of observations frequently used by the principals, informal and formal. These observations differed with respect to length of time in the classroom, to being announced or not, and to the degree the principal may have interacted with the students in the class. All of the principals reported conducting at least 10 informal observations a day, which lasted 10 to 15 minutes. Two principals (Schools 02 and 05), reported conducting substantially more informal observations than the other four (03 and 02 respectively). Four of the six principals reported only formally observed 2 or 3 teachers during the year, but two (schools 01 and 03) reported formally observing 22 and 17 teachers, respectively. The formal observations lasted a class period, usually 50 minutes. The principals considered observing classes as a major part of their instructional leadership role. They reported spending a major portion of their time on instructional tasks. They reported that feedback on performance after observations was almost always given to teachers, usually in a positive tenor whenever possible. The feedback was either given in the from of a note in the teachers box, or a short conversation in the hall or principal's office.

To test if there was any relationship between informal and formal observations by the principal, a Pearson Product-Moment Correlation was performed. The correlation was found to be $r=-0.423$. This was not statistically significant at the $p<.05$. One factor affecting this result was the presence of outliers. There were two principals who formally observed the teachers substantially more than the other four principals. These two principals were assigned to the schools for the first year, which probably affected observation habits.

Critical Question 2c

What amount of time does the principal devote to instructional leadership activities as opposed to administrative activities? (Principal self-reported)

Principal duties were divided into three categories: instruction, discipline, and management. During a personal interviews the principal discussed his individual interpretation of the meaning of these three categories and the percentage of time per week they spent on these respective duties. The general consensus of the principals was that they spent 50% of the school day attending to instructional duties (4 of 6 principals stated this percentage) and that instruction should be the main focus of a principal. Two of the three principals reported 50% of his time was directed toward instructional duties were at schools with well defined effective school programs (schools 01 and 5). Instructional duties included observationing teachers, advising teachers, reading lesson plans, and other related duties. The remaining time was spent on management and discipline

activities; the percentage of time spent with each duty was nearly equal (a mean of 20%), but there was a wide range of time spent on the activity depending on individual principals. Approximately 15% of the time was devoted to other unspecified activities.

During a 40 hour work week, a mean of 43% of the time was spent on instructional tasks, 20% was spent on discipline and also management, and 17% was spent on other tasks. The most inexperienced principal (school 03) spent substantially more time on management (33%) and the least amount of time on instruction (40%). There were three principals (school 02, 05, and 06) who had the largest percentage of undeclared time (22%, 24%, and 22% respectively). The other three principals ranged from 12% to 15% of undeclared time spent.

Critical Question 2d

What impact do the different instructional leadership styles of a principal have on the achievement of the students?

Three null hypotheses were used to answer this question, since the effect of student SES was also taken into consideration. Statistically significant results were found for the two main effects: differences in principal styles (manager and initiator) [$F(2, 179)=7.56$, $p<.001$], and differences between SES groups (lower SES schools and higher SES schools) [$F(2, 179)=58.08$, $p<.001$] on Total Reading and Total Mathematics school means. The interaction effect was not statistically significant (See Table 4). The univariate tests for both main effects were also statistically significant. The effect sized for the principal main effect on Total

Reading was 3.2% and for Total Mathematics was 7.8%; and the effect size on the SES main effect on Total Reading was 35.6% and 3.3% on Total Mathematics (See Table 4). The effect size for SES on Total Reading were consistent with findings in critical question 1b.

Insert Table 4 About Here

These findings suggest that different principal styles on SES groups have a marked effect. This is educationally important since these effects were for only one year and for 5 of the 6 principals would influence the students for seven years due to being elementary school principals. The managers tended to have higher CTBS school means, while the initiators tended to have lower school means. Paradoxically, the initiators had the better defined effective school programs. Also, schools with higher school SES tended to have higher CTBS school means than schools with lower school SES.

School Effectiveness Programs

There were three schools that established clearly defined school effectiveness programs and three others who had some type of school effectiveness program which was not completely operationalized or carried out. There were some characteristics that differentiated the two sets of schools.

First, the schools that had defined effective school programs (DESP) established a committee to be responsible for working on each correlate (schools 01, 03, 05). The committees were made up of teachers who

volunteered and selected the committee on which they served. The schools with less defined effective school programs (LESP) had no committees (schools 02, 04, 06). Usually the principal was the person who promoted the effective school program in these LESP schools.

The second characteristic differentiating the two groups was the differences between LESP and DESP schools on the mean differences between the SES groups and the differences in percentage of students in the SES groups achieving the grade equivalent. The DESP schools tended to have more of a range in mean differences between SES groups on the CTBS. The DESP schools also had greater differences in the percentage of students achieving the grade equivalent. The LESP schools tended to have smaller mean differences between the SES groups and smaller differences in the students achieving the grade equivalent than the DESP schools did by a considerable margin.

A third difference was that the LESP principals devoted more time on management duties than did the DESP principals. The LESP principals also had a higher percentage of unclassified time than did the DESP principals

Finally, the DESP principals were considered initiators by the teachers, all principals had a mean score above 75 on the SAQ. The LESP principals tended to score substantially lower and were considered to be managers rather than initiators.

Conclusions

1. Based on both statistical and educational significance, SES did account for some achievement differences between the students. There was a

disparity of achievement between SES groups as indicated by the MANOVAs, canonical correlation, and percentage analysis. This suggests that students who pay for their lunch in full tend to do better on the CTBS test than the students on free lunch. These results support the research of Brookover (1979) and Andrews and Soder (1987).

2. The older the students were, the less effect SES had on achievement. This was indicated from the analysis on differences in means and percentage differences for the upper elementary and junior high grades. This contradicts much of the work of Brookover (1979). Although this was a finding different than previous research, caution should be taken in generalizing this conclusion. Only one junior high school was involved in the sudy and only six school total. Further investigation of this conclusion should be undertaken.

3. There were differences between the two SES groups relative to achieving the grade equivalent. A greater number of paid lunch students than free lunch students achieved the grade equivalent. This suggests that students who are able to pay for lunch would be more likely to achieve the grade equivalent than students whose families were not able to pay for lunch.

4. The principals expressed high academic expectations for the students, but only limited expectations for education beyond high school. This suggests that either the academic quality of the school is not high or that it may be too difficulty to project that far in the future. It should be noted that in 1985-86, 43.8% of the students statewide attended institutions of higher learning (this includes universities and trade schools) (Louisiana Department of Education, 1987). In addition to the low

state wide percentages of students attending instutions of higher learning, the economic conditions of the region has also restricted students from attending college. College costs become the burden of the student or family and the economic conditions inhibit the ability of many families. These two factors existing in the state (low state wide addendance and regional economic conditions) could have influenced the responses of the principals.

5. Principals expected teachers to impact student achievement through their teaching methods and attitudes. This would suggest that the principals believed the strongest impact on student achievement was the teacher. This also suggested that the teacher expectations correlate may be a correlate of interest.

6. Results form the Staff Assessment Questionnaire (SAQ) suggested that defined effective school programs were generally begun by principals identified as initiators by the teachers, but there was greater variance in test scores between socioeconomic groups as shown by investigating differences in mean NCE scores and differences in the percentage of students scoring grade equivalent. On the other hand, principals identified as managers generally were in schools that showed less variance in test scores between socioeconomic groups as measured by differences in mean NCE scores and percentage of students scoring grade equivalent, but who had the less defined effective schools. The schools with the higher mean scores in Total Reading and Total Mathematics (schools 02, 04, 06) had principals who were managers and the LESPs. The other schools tended to have lower mean scores in Total Reading and Total Mathematics and had principals who were initiators and the DESPs. This indicats that it is not necessary to have a DESP to have high student achievement and less variance between the SES

groups.

7. Based on the MANOVA results, the principal style does impact student achievement. The impact was statistically significant. In particular, the principal who was a manager tended to have students who scored higher on achievement tests than the initiator. This contradicted some of the conclusions of Andrews (1987). The principals defined as managers were found in schools 02, 04, 06. The mean scores for all of the schools are in Table 1. The managers tended to have higher mean score on both the Total Mathematics and Total Reading. Once again, take caution in interperting these conclusions since the sample was small and results are not generalizable to the population at large.

8. Schools with defined effectiveness schools programs were generally begun by principals identified as initiators by the teachers. This suggests that a principal would begin a program, establish the program, and establish committees to carry out the day-to-day needs of the program. The principal also monitored the program.

9. The smallest test disparity between the SES groups on the CTBS was in Total Mathematics. This was not unexpected since the Mathematics test requires limited reading and the answers are either right or wrong, without influence of semantics or style. In Mathematics there is only one correct answer or way to express an answer, unlike in other subject areas. The limited reading and the clearness of answers seemed to produce smaller differences between the two SES groups.

References

Andrews, R. L., & Soder, R. (1987). Principal Leadership and student achievement. Educational Leadership, 44(6), 9-11.

Andrews, R. L., Soder, R., & Jacoby, D. (1986). Principal role, other in-school variables, and academic achievement by ethnicity and SES. A paper presented at the 1986 AERA Annual Meeting, San Francisco, CA.

Brewer, J. (1986). The five correlates. The Effective School Report, 4, 4-8.

Brookover, W., Beady, C., Flood, P., Schweitzer, J., Wisenbaker,J. (1979). School social systems and student achievement schools can make a difference. New York: Praeger.

Burket, G. R., Green, D. R., Yen, W. M., Guest, M. E., & Hunter, W. H. (1984). Comprehensive test of basics skills technical report forms U and V. (no. 90113). Monterey, CA.: CTB/McGraw-Hill.

Coleman, J., Campbell, E., Hobson, C., Partland, J., Mood, A., Weinfield, F., & York, R. (1966). Equality of educational opportunity. Washington, D. C.: U.S. Government Printing Office.

Evans, R. L. (1988). A study of the relationships between principals' change styles, school socioeconomic context, and school effectiveness. Ph.D. Dissertation, University of New Orleans.

Hall, G., Rutherford, W. L., Hord, S. M., & Huling, L. L. (1984). Effects of three principal styles on school improvement. Educational Leadership, 41(5), 22-29.

Hallinger, P., & Murphy, J. E. (1986). The social context of effective schools. American Journal of Education, 94, 328-355.

Louisiana Department of Education (1984). 134th annual statistical and financial report. Baton Rouge, LA: Author.

Louisiana Department of Education (1987). 137th annual statistical and financial report. Baton Rouge, LA: Author.

Madaus, G. F., Kellaghan, T., Rakow E. A., & King, D. J. (1979). The sensitivity of measures of school effectiveness. Harvard Educational Review, 49, 207-228.

Rowan, B., Bossert, S. T., & Dwyer, D. C. (1983). Research on effective schools: a cautionary note. Educational Researcher, 16(3), 24-31.

School Self-Assessment Service Data Collection Procedure Manual. University of Washington.

Sellarole, J. (1986). Cosmos exit report: A study related to school effectiveness. Thrust, 16(2), 46-47.

Shavelson, R. J. (1981). Statistical reasoning for the behavioral sciences. Boston: Allyn and Bacon.

Teddlie, C., Stringfield, S., Wimpelberg, R., & Kirby, P. (1987). Contextual differences in effective schooling in Louisiana. Paper presented at the annual meeting of the American Educational Research Association, Washington, D.C.

Thompson, B. (1984). Canonical correlation analysis uses and interpretation. Beverly Hills, CA: Sage.

Wellisch, J. B., MacQueen, A. H., Carriere, R. A., & Duck, G. A. (1978). School management and organization in successful schools. Sociology of Education, 51, 211-226.

Table 1

NCE Means for CTBS Scores for Each School

Test	School 01	02	03	04	05	06
Reading	51.90 (449)	52.72 (570)	50.70 (504)	56.28 (571)	50.96 (435)	53.26 (469)
Mathematics	57.00 (342)	59.50 (480)	63.39 (424)	64.86 (449)	56.16 (375)	61.35 (469)
Language	55.12 (281)	56.36 (406)	57.29 (356)	64.71 (356)	55.87 (303)	63.71 (469)
Reference Skills	53.79 (149)	53.19 (223)	51.46 (191)	63.84 (206)	52.71 (178)	55.62 (469)
Science	56.38 (268)	57.77 (397)	54.87 (353)	59.67 (352)	53.97 (299)	54.77 (469)
Social Studies	50.53 (268)	51.20 (398)	51.70 (353)	58.93 (352)	52.13 (299)	55.64 (469)
Total Battery	54.70 (274)	51.68 (401)	53.11 (353)	56.77 (353)	56.35 (301)	59.88 (469)

Note. (N) - number of students.
Note. Total Battery is a composite of Reading, Mathematics, and Language.

Table 2

Canonical Solution for Total Reading and Total Mathematics for SES and Grade Level

Variables	Function I			Function II			h^{2d}
	F[a]	S[b]	SSQ[c]	F	S	SSQ	
Tot Reading	.96	.98	.96	-.47	.21	.04	1.00
Tot Mathematics	.03	.64	.41	1.07	.77	.59	1.00
SES	.76	.87	.76	-.65	-.40	.16	.92
Grade level	.65	.90	.81	.76	.33	.11	.92

Note. N= 3006.
[a]F - Canonical function coefficients
[b]S - Canonical structure coefficients
[c]SSQ - Squared canonical structure coefficients
[d]h^2 - Canonical communality coefficients

Table 3
T-test Summary on Percentage of Students at 41st% on CTBS for Two SES Groups

School SES	M	SD	t
High SES	76.60	0.723	3.8*
Low SES	68.39	3.695	

*p<.05

Table 4
MANOVA and ANOVA Summary Table for the Effect of Two Variables on Mean Total Reading and Mathematics Scores

	MANOVA F-exact		Mean Total Reading		Mean Total Mathematics	
Source of Variation	df	F	df	F	df	F
Principal Type (A)	2/179	7.56**	1/180	5.96*	1/180	15.17**
Socioeconomic (B) Status	2/179	58.08**	1/180	99.59**	1/180	6.19*
Interaction A X B	2/179	0.71	1/180	0.34	1/180	0.14

Note. F-exacts were based on Wilks' Lambda Criterion (Shavelson, 1981).
*$p<.05$
**$p<.001$